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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/529,239	10/27/2000	Marie-Pascale Doutriaux	A33153-PCT USA	1839
21003	7590	01/07/2002		
BAKER & BOTTS 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			EXAMINER	KRUSE, DAVID H
			ART UNIT	PAPER NUMBER
			1638	
DATE MAILED: 01/07/2002				

Please find below and/or attached an Office communication concerning this application or proceeding.

*FILE COPY*

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/529,239	DOUTRIAUX ET AL.
	Examiner David H Kruse	Art Unit 1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is **FINAL**.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) \_\_\_\_ is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) 1-36 are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All
  - b) Some \*
  - c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ .	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### ***Status of the Application***

1. Applicant is hereby informed that the claims as originally filed were misnumbered and that the claims have been renumbered under Rule 1.126. Claim number 25 appears twice, on page 32. Claims 1-36 are pending.

### ***Election/Restrictions***

2. Restriction is required under 35 U.S.C. §§ 121 and 372.

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR § 1.499, applicant is required, in response to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-3, 7-23 and 29-33, drawn to an isolated DNA molecule encoding an *Arabidopsis AtMSH3* polypeptide or homolog thereof and a process using said DNA molecule.

Group II, claim(s) 1-3, 7-23 and 29-33, drawn to an isolated DNA molecule encoding an *Arabidopsis AtMSH6* polypeptide or homolog thereof and a process using said DNA molecule.

Group III, claim(s) 4-6, drawn to an isolated polypeptide involved in the DNA mismatch repair system of a plant, wherein said polypeptide is the *Arabidopsis AtMSH3* polypeptide or a homolog thereof.

Group IV, claim(s) 4-6, drawn to an isolated polypeptide involved in the DNA mismatch repair system of a plant, wherein said polypeptide is the *Arabidopsis AtMSH6* polypeptide or a homolog thereof.

Group V, claim(s) 24-27, drawn to a process of breeding a plant using a phenotypic marker.

Group VI, claim(s) 28, drawn to a process of mutational selection of a plant or a plant cell.

Group VII, claim(s) 34-36, drawn to an oligonucleotide/PCR primer that binds to a DNA molecule that encodes a polypeptide involved in the DNA mismatch repair system of a plant, SEQ ID NO: 18 or SEQ ID NO: 30.

3. The inventions listed as Groups I-VII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The broadest concept of the instant claims is directed to DNA sequences that are capable of interfering with a plant's DNA mismatch repair system. Homologues of the *Arabidopsis AtMSH3* and *AtMSH6* polypeptides were well known in the art at the time of Applicant's invention and are encompassed by the instant claims, such as those isolated from *Saccharomyces cerevisiae* as taught by Alani (*Molecular and Cellular Biology*, 1996, 16(10):5604-5615). Applicant's claims are directed to any isolated DNA homologue that would interfere with or operate in a plant's DNA mismatch repair system. Without evidence to the contrary, the claims lack a special technical feature under PCT Rule 13.2 because the prior art discloses DNA molecules encoding polypeptides that would interfere with or operate in a plant's DNA mismatch repair system.

In addition, the isolated polypeptide of Group III or IV is structurally, compositionally and functionally distinct from the isolated DNA molecule of Group I, II or VII. Also, the process of Group V or VI does not require either the isolated DNA molecule of Group I, II or VII, or the isolated polypeptide of Group III or IV. In addition, Groups V and VI, drawn to second and third processes, involve methods and substrates not required by any other group. Group VII, drawn to a fifth product, is distinct from the protein-encoding products of Groups I and II. Hence, the instant claims do not relate to a single inventive concept as required under PCT Rule 13.1 because they lack a special technical feature as required under PCT Rule 13.2.

Applicants are reminded that nucleotide sequences encoding different proteins are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus deemed to normally constitute **independent and distinct** inventions within the meaning of 35 U.S.C. § 121. Absent evidence to the contrary, each such nucleotide sequence is presumed to represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. § 121 and 37 CFR § 1.141 et seq. This requirement is not to be construed as a requirement for an election of species, since each nucleotide and amino acid sequence is not a member of a single genus of invention, but constitutes an independent and patentably distinct invention.

4. Applicant is advised that the reply to this requirement to be complete within one month (not less than 30 days) must include an election of the invention to be examined even though the requirement be traversed (37 § CFR 1.143).

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5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR § 1.48(b) and by the fee required under 37 CFR § 1.17(i).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Kruse, Ph.D. whose telephone number is (703) 306-4539. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Dr. Amy Nelson can be reached at (703) 306-3218. The fax telephone number for this Group is (703) 308-4242 or (703) 305-3014.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the William Phillips whose telephone number is (703) 305-3482.

David H. Kruse, Ph.D.  
4 January 2002

DAVID T. FOX  
PRIMARY EXAMINER  
GROUP 1638

